EDITOR: M. J. SIENKO

Journal of Solid State Chemistry

VOLUME 29, 1979

ACADEMIC PRESS
New York and London

A Subsidiary of Harcourt Brace Jovanovich, Publishers

Journal of Solid State Chemistry

Copyright © 1979 by Academic Press, Inc.
All rights reserved

No part of this publication may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying, recording, or any information storage and retrieval system, without permission in writing from the copyright owner.

The appearance of the code at the bottom of the first page of an article in this journal indicates the copyright owner's consent that copies of the article may be made for personal or internal use, or for the personal or internal use of specific clients. This consent is given on the condition, however, that the copier pay the stated per copy fee through the Copyright Clearance Center, Inc., (Operations Staff, P.O. Box 765, Schenectady, New York 12301) for copying beyond that permitted by Sections 107 or 108 of the U.S. Copyright Law. This consent does not extend to other kinds of copying, such as copying for general distribution, for advertising or promotional purposes, for creating new collective works, or for resale. Copy fees for pre-1979 articles are the same as those shown for current articles.

Contents of Volume 29

Number 1, July 1979

M. Greenblatt, J.-M. Kuo, and J. H. Pifer. Electron Spin Resonance of CrO_4^{3-} in Strontium Chloroapatite, $Sr_5(PO_4)_3Cl$ 1

M. Ganne, M. Dion, A. Verbaere, et M. Tournoux. Sur une nouvelle famille structurale $M_2^{II}M^{I}Ta_5O_{15}$ structure cristalline de $Ca_2TlTa_5O_{15}$ 9

W. Depmeier. The Uniqueness of the Propyl Compound in the Series $(C_nH_{2n+1}NH_3)_2MnCl_4$ with $n = 1-10$ 15

Takehiko Takahashi and Katsumi Kuwabara. Electrical Conductivities of Potassium Ferrites Doped with Divalent Metal Oxide 27

Helmut M. Haendler and Philip M. Carkner. The Crystal Structure of Copper Bromide Triselenide, $CuBrSe_3$ 35

G. O. Brunner. The Properties of Coordination Sequences and Conclusions Regarding the Lowest Possible Density of Zeolites 41

J. L. Hodeau and M. Marezio. Structural Aspects of the Metal-Insulator Transitions in $(Ti_{0.9975}V_{0.0025})_4O_7$ 47

James R. Akridge and John H. Kennedy. Absorption and Emission Spectroscopy and Magnetic Susceptibility of Sodium β-Alumina Doped with Mn, Co, and Ni 63

Francis Abraham, Jacques Trehoux, and Daniel Thomas. $La_3Os_2O_{10}$, A New Compound Containing Isolated Clusters Os_2O_{10} with Metal–Metal Bonds 73

Jean-Raymond Gavarri, Claude Carel, et Dominique Weigel. Contribution à l'etude structurale de la wüstite solide de haute température 81

Pasupati Sadhukhan and Alexis T. Bell. Theoretical Estimations of $\Delta H^0_{f,T}$, $\Delta S^0_{f,T}$, and $\Delta G^0_{f,T}$ for $Ca(O_2)_2$ 97

Jean-Claude Boivin, Daniel Thomas, Gerard Pouillard, et Pierre Perrot. Détermination de la structure cristalline du ferrite de baryum $Ba_2Fe_6O_{11}$ 101

M. M. Kotlyarskii. Manifestation of Phonons in $TlMnCl_3$ Absorption Spectrum .. 109

W. S. Glausinger, H. S. Horowitz, and J. M. Longo. Preparation and Magnetic Properties of Manganite 117

H. Haeuseler. X-Ray Investigations in the System $CdIn_2S_4$–$CdIn_2Se_4$ 121

Jean Flahaut, Pierre Laruelle, Micheline Guittard, Sylvie Jaulmes, Maud Julien-Pouzol, et Catherine Lavenant. Sulfures ternaires d'europium et d'étain, contenant l'europium aux états de valence II et III ... 125

Fumio Watari, J. van Landuyt, P. Delavignette, and S. Amelinckx. Electron Microscopic Study of Dehydration Transformations. I. Twin formation and Mosaic Structure in Hematite Derived from Goethite 137

Number 2, August 1979

V. A. ANTONOV, P. A. ARSENEV, AND D. S. PETROVA. Spectroscopic Properties of Nd^{3+} Ion in $TbAlO_3$ Single Crystals 151

G. D. FALLON AND B. M. GATEHOUSE. Crystal Structures of Some Niobium and Tantalum Oxides. VII. $K_{4+5x}Ta_{16-x}O_{42}(x \approx 0.3)$ 159

R. T. TUENGE AND LEROY EYRING. On the Structure of the Intermediate Phases in the Praseodymium Oxide System 165

C. RIEKEL AND C. O. FISCHER. A Neutron Diffraction Study on the Intercalation of Deuteropyridine into Tantalumdisulfide 181

H. OESTERREICHER, H. BITTNER, AND K. SHULER. Hydride Formation of Rare Earths under Water Vapor 191

KJELL WALTERSSON. Neutron and X-Ray Diffraction Structure Determination of $Cs_2[VOF_4(H_2O)]$, a Compound Previously Assigned Cs_2VF_6 Composition ... 195

T. R. WHITE, W. S. GLAUNSINGER, H. S. HOROWITZ, AND J. M. LONGO. Magnetic Properties of the Layered Compounds $Ca_2Mn_3O_8$ and $Cd_2Mn_3O_8$ 205

V. R. PAI VERNEKER AND U. V. VARADA RAJU. Chemistry of the Incomplete Decomposition of Ammonium Perchlorate (AP) 215

H. TAGUCHI, M. SHIMADA, AND M. KOIZUMI. The Effect of Oxygen Vacancy on the Magnetic Properties in the System $SrCoO_3-\delta$ $(0<\delta<0.5)$ 221

J. A. GROENINK AND H. BINSMA. Electrical Conductivity and Defect Chemistry of $PbMoO_4$ and $PbWO_4$ 227

E. SALJE, A. F. CARLEY, AND M. W. ROBERTS. The Effect of Reduction and Temperature on the Electronic Core Levels of Tungsten and Molybdenum in WO_3 and $W_xMo_{1-x}O_3$—A Photoelectron Spectroscopic Study 237

S. VASUDEVAN, M. S. HEGDE, AND C. N. R. RAO. XPES and UVPES Studies of Iron Oxides 253

R. SCHÖLLHORN, R. ARNDT, AND A. KUBNY. Formation and Reactions of Hydrated Layered Chromium Sulfides $A_x(H_2O)_y[CrS_2]$ 259

G. BAUD, J. P. BESSE, R. CHEVALIER, ET M. GASPERIN. Structure cristalline de La_3ReO_8 267

P. TARTE AND J. PREUDHOMME. Studies of Spinels. VI. Antimonates $M_4^{II}M^{III}SbvO_8$, a New, Large Family of Spinels Presenting Order–Disorder Transitions 273

F. GRANDJEAN AND A. GERARD. Mössbauer Spectra of Several Ternary Silicides, Germanides, and Antimonides of Transition Metals 285

B. BOCHU, M. N. DESCHIZEAUX, J. C. JOUBERT, A. COLLOMB, J. CHENAVAS, ET M. MAREZIO. Synthèse et caractérisation d'une série de titanates pérowskites isotypes de $[CaCu_3](Mn_4)O_{12}$ 291

NOTE

PIERRE VALLET. Lettre à l'editeur relative au mémoire intitulé "Contribution à l'etude structurale de la Wüstite solide de haute temperature" 299

Number 3, September 1979

NTRODUCTION 301

I. STANLEY WHITTINGHAM, Intercalation Chemistry and Energy Storage 303

EAN ROUXEL, L. TRICHET, P. CHEVALIER, P. COLOMBET, AND O. ABOU GHALOUN. Preparation and Structure of Alkali Metal Intercalation Compounds 311

. R. CHIANELLI, J. C. SCANLON, AND B. M. L. RAO. *In Situ* Studies of Electrode Reactions: The Mechanism of Lithium Intercalation in TiS_2. 323

. W. MURPHY, F. J. DI SALVO, AND J. N. CARIDES. Vanadium Disulfide: Metal Substitution and Lithium Intercalation. 339

LAN S. NAGELBERG AND WAYNE L. WORRELL. A Thermodynamic Study of Sodium-Intercalated TaS_2 and TiS_2 345

. J. JACOBSON AND L. E. MCCANDLISH. *In Situ* Mössbauer Spectroscopy Studies of the Electrochemical Reaction of Lithium with $KFeS_2$ 355

J. BIRTILL AND P. G. DICKENS. Thermochemistry of Hydrogen Molybdenum bronze Phases H_xMoO_3 367

. LUCAT, A. RHANDOUR, J. M. REAU, J. PORTIER, AND P. HAGENMULLER. Fast Ionic Conduction of Fluorides with the Fluorite-Type Structure. 373

. V. ALPEN. Li_3N: A Promising Li Ionic Conductor 379

. M. BIEFELD AND R. T. JOHNSON, JR. The Effects of Li_2SO_4 Addition, Moisture, and LiOH on the Ionic Conductivity of $Li5_5AlO_4$ 393

. L. AMMLUNG, RAYMOND P. SCARINGE, JAMES A. IBERS, D. F. SHRIVER AND D. H. WHITMORE. Trends in Heavy-Metal Solid State ionic Conductors: A Comparison of Cu^+, Ag^+, In^+, and Tl^+ Transport. 401

UMIO WATARI, P. DELAVIGNETTE, AND S. AMELINCKX. Electron Microscopic Study of Dehydration Transformations. II. The Formation of "Superstructures" on the Dehydration of Goethite and Diaspore. 417

. GERAND, G. NOWOGROCKI, J. GUENOT, AND M. FIGLARZ. Structural Study of a New Hexagonal Form of Tungsten Trioxide 429

. IGUCHI AND R. J. D. TILLEY. Strain Energy due to {001} Crystallographic Shear Planes in Materials Possessing the ReO_3 Structure 435

UTHOR INDEX FOR VOLUME 29 453

he Subject Index for Volume 29 will appear in the December 1979 issue as part of a cumulative index for the year 1979.